APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,351	03/28/2001	Katsumi Watanabe	14445	3348

23389	7590	09/30/2005	EXAMINER

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ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	**Applicant(s)**	
Office Action Summary	09/819,351	WATANABE, KATSUMI	
	Examiner	**Art Unit**	
	Mary J. Steelman	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _7/25/2005, 6/24/2005_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-6_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _1-5_ is/are allowed.

6)☒ Claim(s) _6_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _28 March 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _1/2/2004_.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 7-05)   Office Action Summary   Part of Paper No./Mail Date 20050907

DETAILED ACTION

1.   This Office Action is in response to RCE received 7/25/2005 and Remarks and

Amendments received 6/24/2005. Per Applicant's request, claims 1, 3, and 6 are amended.

Claims 1-6 are pending.

Claim Objections

2.   Examiner objects to claim status indicated on claims received 6/24/2005. Claim 3 recites

"(Previously Amended)" should be --(Currently Amended)--.

Information Disclosure Statement

3.   Regarding IDS received 28 March 2001, Examiner has located English patent abstracts at

the Japanese Patent Office, hereby included as references cited. As such, Examiner has initialed

IDS received 1/2/2004.

Allowable Subject Matter

4.   The following is a statement of reasons for the indication of allowable subject matter:

As Applicant has pointed out, on page 6 of Remarks received 6/24/2005, regarding

independent claim 1, cited prior arts taken alone or in combination, fail to disclose:

"outputting an uncompressed instruction address as trace data when an instruction

code of the instruction address/instruction code data from said CPU is a branch

instruction;

outputting the uncompressed instruction address as the trace data when the section

trace start signal from said event management means is active;

generating a plurality of compressed instruction addressed by compressing the

instruction address of the instruction address/instruction code data, combining the

compressed instruction addresses, and outputting the compressed instruction addresses as

the trace data when the instruction address of the instruction address/instruction code data

is not a branch instruction and the section trace start signal is not active"

It is important to note that the 'section trace start signal from said event

management means is active' only during a brief 2-clock period at the start of execution

of a section to be traced, as disclosed in the Specification, page 19, last paragraph.

Thus, claims dependent upon claim 1, claims 2-5, also contain allowable subject

matter.

Response to Arguments

5.   Applicant's arguments (filed 6/24/2005), with respect to claim 1 have been fully

considered and are persuasive. The rejections of claims 1-5 have been withdrawn.

6.   Applicant's argues that Edwards provides no suggestion of selectively compressing trace

data. Examiner disagrees. Col. 10, lines 55-60 suggest that preconditions to triggering particular

events may be provided in generating trace information. Edwards suggested that the trace may

be compressed (col. 9, line 55).

7.   Examiner disagrees with Applicant's comment on page 7, 4th paragraph, "Independent

Claim 6 recites similar language to Claim 1." In fact, claim 6 only applies to storing a

'predetermined instruction address and a predetermined instruction code' (such as a start trace

address) uncompressed. Claim 6 does not suggest the limitation of storing a branch instruction

uncompressed.

<div align="center">

Claim Rejections - 35 USC § 102

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8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9.   Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,732,307

B1 to Edwards.

Per claim 6:

A program development support apparatus comprising:

-a trace memory for compressing and storing an instruction address that traces an instruction in a

program;

Edwards disclosed (col. 2, lines 60-65) a debug module (program development support

apparatus) configurable to store trace information. Edwards recognized the usefulness of

compressing the trace information (col. 2, lines 41-58).

-event detection means for controlling to write an instruction address upon detecting at least one

of a preset predetermined instruction address and a predetermined instruction code, of which at

least one of the predetermined instruction address and the predetermined instruction code is

stored in said trace memory as uncompressed data, the predetermined instruction code being

different from a branch instruction.

Edwards disclosed that some instructions/data code may (col. 9, line 55) be compressed. The

type of instruction is detected and a decision is made, considering defined events and conditions

defined, whether to compress or not (choose to not compress preset predetermined instruction

address and a predetermined instruction code, different from a branch instruction). Edwards: col.

10, line 55-col. 11, line 3, "debug circuit may provide a number of signals to the processor for

use in debugging operations…a number of bit values which operates as preconditions (signals,

matches of predetermined code / addresses, certain types of instructions such a branch) to

triggering particular events…These events may then generate trace information…watchpoint

channels may cause the processor to generate …an exception. The watchpoint channels

themselves may also have preconditions (upon detecting at least one of a preset predetermined

instruction address and a predetermined instruction code) which determine…match conditions

which indicate whether or not a match will occur (a match of predetermined code / address?) for

a particular watchpoint, and action conditions which will determine if and what type of action

occurs (compress or not compress prior to storage?) based on a watchpoint channel match."

Edwards disclosed storing trace data at col. 6, lines 12-14.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (571) 272-3704. The examiner can normally be reached Monday through Thursday, from 7:00 AM to 5:30 PM If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached at (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned: 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mary Steelman
09/07/2005